

REMARKS

Claims 1 through 23 continue to be in the case.

New claims 24 through 29 are being submitted.

New claim 24 is based on claim 1 and also on the first part of claim 3, first parts of claim 4, and on claim 5.

New claim 25 is based on claim 4.

New claim 26 is based on claim 10 and on the specification, paragraph bridging page 10 and 11.

New claim 27 is based on the language of claim 17.

New claim 28 is based on claim 2 and Figs. 1, 2, 3, and 4.

New claim 29 is based on claim 2 and Figs. 1, 2, 3, and 4.

The amendment of claim 2 is based on Figs 1 through 4.

The Office Action refers to Continued Examination Under
37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 21, 2003 has been entered.

Applicants appreciate the acceptance of the Request for Continued Examination.

The Office Action refers to Claim Rejections - 35 USC § 102.

3. Claims 1-6,8,10,12,13 and 23 stand rejected under 35 U.S.C. 102(e) as being anticipated by Toth et al. (US 3,974,933).

Regarding claim 1, Toth et al. discloses in Fig. 4, an explosion proof device casing comprising:

two casing parts 401 and 402 having wall parts disposed toward each other;

a profile clamp 432 connecting the casing parts;

a slot between the wall parts (see Fig. 4).

Applicants respectfully traverse.

The Office Action states that the Toth et al. reference shows a profile clamp connecting the casing parts.

In contrast to this, the reference Toth et al. states in column 4, lines 58 and 59: "In FIG. 4 there will be seen a cover 401 and a compartment section 402 which are joined by threads 403."

The reference Toth et al. further states in column 5, lines 12 through 14: "The clamp 432 assures that the cover 401 cannot turn as a result of extreme vibration, shock or careless handling".

In contrast to the statement in the Office Action, the Toth et al. reference says that the cover 401 and the compartment section 402 are joined or connected by threads 403 and that the clamp 432 prevents the cover 402 from turning.

Thus the purpose of the clamp 432 of the Toth et al. reference of preventing turning of the cover 401 is clearly different from the purpose of the profile clamp of claim 1 of the present application "of connecting the casing parts (2, 3, 23, 24, 45,56) against the force of an explosion like internal pressure of the casing."

Claim 1 requires that the "profile clamp (4, 29, 46, 53) is formed shape matching to the casing parts (2,3,23,24, 45, 56)". In clear contrast, the clamp 432 of the Toth et al. reference does not match the contour of the cover 401 and/or of the compartment section 402 of the Toth et al. reference.

Applicants did not find in the Toth et al. reference anything about "wall parts" and about "a slot between the wall parts", as the Office Action states.

Applicants respectfully ask what reference numerals of the Toth et al. reference can be identified as "wall parts" and "a slot between the wall parts", preferably with citations of the Toth reference.

The Claim 1 of the present application requires "a slot (7, 28) safe against ignition punch".

Parts 401 and 402 of the Toth reference are joined by threads 403 (disposed vertically in Fig.4) clearly safe against ignition punch, and, in addition to, parts 401 and 402 have a some space (disposed horizontally in Fig.4) between the anvil plane 407 and the gasket 405.

The Toth et al. reference (Summary of the invention, Col.2, lines 4-9) teaches about a switch contact through a threads safe

against ignition punch, with an additional means such as a clamp:
“To provide a visual indication that the cover is in the appropriate position, locking means engageable with the cover and compartment are provided that will lock only when the cover and compartment are in the desired sealing relationship.”

Then, the Toth et al. reference (please see the Abstract, lines 4-8) says: “The present invention provides a means for assuring that an explosion proof enclosure which has been opened ... is restored to its original condition.”

Therefore, the clamp connection of the Toth et al. reference is only an additional means for indication, but not safe against ignition punch. Therefore, the horizontal space between the anvil plane 407 and the gasket 405 does not furnish a slot safe against ignition punch according to the teaching of Toth et al.

While the reference Toth et al., column 5, line 32 specify “the clamp 432”, nothing is said or suggested in the reference Toth et al. about a profile clamp as required in claim 1. A profile clamp

is a clamp which clamps along a profile having a cross-section as shown in Figs. 1 through 4. Thus the requirement of a profile clamp in claim 1 clearly distinguishes claim 1 the reference Toth et al.

Claim 1 has been further amended by now requiring that the profile clamp (4, 29, 46, 53) terminates the slot (7,28). The clamp 432 of the reference Toth et al. does not terminate any slot whatsoever.

Applicants urge that the termination of a slot (7,8) safe against ignition punch by a profile clamp (4, 29, 46, 53) patentably distinguishes claim 1 of the present application over the Toth et al. reference..

The Office Action states:

Regarding claim 2, the profile clamp 432 is about a C-shape.

Applicants respectfully disagree. The element 432 of the reference Toth et al. is not a profile clamp, but a two part clamp,

where one part is hinged by hinge pin 431 (Toth et al., column 4, lines 66 and 67.

Claim 2 as amended further specifies that the profile clamp is a single structure. This is in clear contrast to the teaching of the reference Toth et al.

The Office Action states:

Regarding claim 3, the clamp has a base web 435,439 and side webs 433,434 corresponding to each casing part 401 and 402.

Applicants respectfully traverse.

Applicants reiterates that a profile clamp 8 of the applicants is distinguished from a hinged clamp 432 of the Toth et al. reference.

The present application Claim 3 refers to a "web". This implies that the profile clamp of the applicants is of nearly closed

(basically round, but also square, polygonal etc) shape, as clearly shown in the Figs.5-7 of the present application.

The Toth et al. reference refers to only one clamp which contacts with part 401 and is hinged to 402.

The clamp of the reference Toth et al. clearly cannot have web shape because the clamp 432 is attached by the hinge pin 431, so it would be impossible to attach the web-shaped clamp to part 401. This difference is very logical, because the clamp in the Toth et al. reference is no more than an addition intended only for indication purposes.

The upper section 433 of the clamp 432 in the Toth reference contacts with parts 401 only in one point of the part 401 where the rim 441 is provided at the part 401, but not like a web (along the whole contour of the part 401).

Thus the clamp in the Toth reference does not comprise webs.

Claim 3 has further been amended by now requiring that:

“wherein the one side web (9, 32, 54) structurally matches the one casing part (2,24, 56) and wherein the second side web (10,31, 47) structurally matches the second casing part (3,23, 45).”

There is no side web in the Toth et al. reference which structurally matches a respective casing part as expressly required in claim 3.

The Office Action states:

Regarding claim 4, the side webs 433 and 434 are at a distance from each other.

In addition to, the present application Claim 4 requires side webs “having a rectangular cross-section under an angle, and ... disposed at the right angle relative to the rectangle base web “. The Toth et al. reference does not meet this requirement, as clearly seen

from the Fig.4 of the Toth reference. There appears to be nothing rectangular at the clamp 432 of the reference Toth et al.

The Office Action states:

Regarding claim 5, a supplemental slot is formed between a stop face of the side webs 433 and 434 and a support face of the casing parts (see Fig. 4).

Applicants respectfully disagree.

It is not clear what is meant by "between a stop face of the side webs 433 and 434 and a support face of the casing parts (see Fig. 4)." In the Office Action. In particular, it is unclear what role lower section 434 of the reference Toth et al. would play in the formation of the supplemental slot alleged in the Office Action.

The reference Toth et al. teaches only a wide slot between the cover 401 and the compartment section 402. A seal 405 is furnished in the wide slot in order to provide a water barrier. By no means does the wide slot for providing a water barrier present an ignition safe supplemental slot and in particular not as defined for explosion proof structures.

The reference Toth et al. shows further an engagement area between the upper section 433 and the cover 401. However this area is not a slot, because: "a bolt 435 passes through a hole 436 in the upper section 433 and engages with threads 437 in the lower section 434. The end of the bolt 435 may be peened to prevent full removal. The cover 401 has a rim 441 which the upper section 433 of the clamp 432 may engage."

There is no direction to a profile clamp in the reference Toth et al. The reference Toth et al. in contrast is directed to a single bolt 435 passing through a hole 436 and engaging with threads 437. If a profile clamp would be of concern to the reference Toth et al.,

then at least a second bolt disposed at a second parallel location would be provided to mimic a longitudinal extension of a profile.

Furthermore, Fig. 4 of Toth et al. shows the cover 441 in cross-section, the compartment section 402 in cross-section, however the upper section 433 in a side elevational view and the lower section 431 in a side elevational view. This indicates that the clamp 432 of the reference Toth et al. has only a very limited extension in a direction perpendicular to the plane viewed in Fig. 4 of the reference Toth et al.

The side elevational view of a hinge 431 in Fig. 4 attaching the lower section 434 of the clamp 432 to the compartment section 402 shown in cross-section confirms the reference Toth et al. does not teach or suggest a profile clamp.

The reference Toth et al. lacks further an ignition punch proof supplemental slot of a stop face of the upper section 433 and

the lower section 434, and a support face of the cover 401 in contrast to the requirements of claim 5 of the present application.

The present application Claim 5 requires side webs. As pointed out above, the Toth et al. reference does not show any side webs.

The Office Action states:

Regarding claim 6, the stop face, the support face and the supplemental slot are disposed in parallel to the slot.

Applicant respectfully traverses.

Claim 6 of the present application requires a side web. As seen above, the Toth et al. reference does not show the side web.

As seen above, it is unclear what part of the Toth reference teaches a slot safe against ignition punch. Certainly the gasket 405 of the Toth reference is not laid out to be safe against ignition

punch. Only a surface between threads 403 of the Toth reference might be safe against ignition punch. But this surface between threads 403 is disposed perpendicular to the stop face and the support face, not parallel, as the present application requires.

Also it is unclear what part of the Toth reference can be defined as a supplemental (ignition punch safe) slot.

Therefore, the reference Toth et al. does not teach a supplemental ignition punch safe slot disposed in parallel to an ignition punch safe slot as is expressly required in claim 6 of the present application..

The Office Action states:

Regarding claim 8, the supplemental slot is shorter than the slot.

Applicants respectfully traverse.

It remains unclear which is the part of the Toth et al. reference suggesting or teaches a slot safe against ignition punch. Nothing is said in the Toth et al reference about the safety against ignition punch of the gasket 405. Apparently the only slot in the Toth reference which is safe against ignition punch could perhaps be the surface between threads 403. But this surface between threads 403 is disposed perpendicular to the stop face and the support face, not parallel, as the present application requires.

Also it is unclear what part of the Toth reference can be defined as a supplemental slot (safe against ignition punch).

The claim 8 of the present application requires a side web. As seen above, the Toth reference does not show any side web. For all these differences, it is respectfully submitted that claim 8 clearly defines the invention over the reference Toth et al.

The Office Action states:

Regarding claim 10, part of the clamp is supported in a recess of the casing part.

Claim 10 has been amended to specify that the profile clamp is shape matching with the recess engaged. It is urged that this amendment to claim 10 patentably defines claim 10 over the Toth et al. reference.

The Office Action states:

Regarding claim 12, an inner face of the base web is parallel to a rest face of the casing (see Fig. 4).

Applicants respectfully traverse.

Fig. 4 of the Toth et al. reference shows clearly that the upper section 433, the lower section 434, the compartment section 402 and the cover 401 surround substantially a triangle and therefore the allegation of the Office Action that in the reference Toth et al. "an inner face of the base web is parallel to a rest face of the casing (see Fig. 4)" is apparently incorrect. This absence of

parallelity in Fig. 4 of the reference Toth et al. is recognized immediately, where it is seen that the inner faces of the upper section 433 and of the lower section 434 are disposed inclined and not parallel to the compartment section 402 and to the cover 401. This means also that the outer face of the cover 401 and of the compartment section 402 do not present a rest face for the clamp 432 of the Toth et al. reference.

Claim 12 of the present application also requires a base web. As seen above, the Toth reference does not show such a web.

It is unclear what part of the Toth reference can be defined as “an inner face of the base web”, and where can the distance mentioned by the Examiner be found in the reference Toth et al. .

Applicants respectfully submit that the feature of claim 12 of “an inner face (11,33) of a base web (8,30) of the profile clamp (4,29, 46, 53) disposed toward the casing (1,20,44,52) is disposed parallel to a rest face (12,34) of the casing part (2,3,23, 24, 56).” is

patentably different from what is shown in Fig. 4 of the Toth et al. reference.

The Office Action states:

Regarding claim 13, there is a distance between an inner face of the base web 435 and 439 and a rest face of the casing.

Applicants respectfully traverse.

Claim 13 requires “wherein a distance of less than 1 mm is formed between an inner face (11,33) of a base web (8,30) of the profile clamp (4,29, 46, 53) and a rest face (12,34) of the casing parts (2,23, 24, 56).”

In clear contrast to this requirement of claim 13, Fig. 4 of the Toth et al reference shows a distance between the upper section 433 and the cover 401 of the order of magnitude of a bolt head and a distance between the lower section 434 and the compartment section 402 also of the order of magnitude of a bolt head and two

times the diameter of the cross-section of gasket 405. It is clear from the drawing Fig. 4 of the reference Toth et al. That two times the diameter of the cross-section of gasket 405 is larger than 1 mm in contrast to the express requirement of claim 13.

The present application Claim 13 requires a base web. As seen above, the Toth et al. reference does not show any web.

It is unclear what part of the Toth et al. reference can be defined as "an inner face of the base web", and where can the distance mentioned by the Patent Examiner be found in the reference Toth et al.

The Office Action states:

Regarding claim 23, the clamp is fixed to the casing parts (see Fig. 4).

Applicants disagree. Only the lower part 434 of the Toth et al. Reference is hinged to the compartment section 402.

Claim 23 has been amended to now also specify, that the profile clamp of the present invention is formed as a single piece.

The Office Action refers to Claim Rejections - 35 USC § 103

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(x).

All claims are believed to be commonly owned.

6. Claim 22 is rejected under 35 U.S.C. 103(x) as being unpatentable over Toth et al.

Regarding claim 22, the clamp is not a single integral piece of uniform material. It would have been obvious to one having ordinary skill in the art at the time the invention was made for the clamp to be a single piece of uniform material, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

Applicants respectfully disagree.

While the reference Toth et al. teaches a clamp 432, claim 22 requires a profile clamp 8.

Applicants further submit that by making the clamp 432 of the Toth et al. reference of a single piece, the device of the reference Toth et al. would become inoperable, since the clamp 432

can be mounted and dismounted only by loosening the bolt 435. A single piece 432 clamp could not perform its function at the cover 401 and at the compartment section 402. According to the reference Toth et al. The clamp 432 has to be opened first in order to be able to grip over the rim 441. Then the bolt 435 has to be turned for pulling the clamp 432 together and for tensioning the cover 401 versus the compartment section 402. If the bolt 435 could not be unloosened or the clamp 432 would be a single integral piece, the clamp would no longer be installable and/or removable and thus would not be able to perform the function it was constructed for. .

The clamp 432 of the reference Toth et al. comprises at least three parts. Thus the argument of the Office Action for two parts is no longer applicable for higher numbers of parts to be made a single integral part.

In contrast, the profile clamp 8 of the present application does not first require opening and then does not require screwing together, but has the more simple function of being inserted as a rigid part directly into a recess of the casing parts. Only this simple functioning allows to construct the profile clamp 8 of the present invention as a single piece.

Allowable Subject Matter

7. Claims 11,14-19 and 21 are allowable.

Applicants gratefully acknowledge the indication of allowability of claims 11, 14 through 19 and 21.

The Office Action refers to Response to Arguments

9. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

It is submitted that the claim features of new claim 24, which are based on claim 5, are completely new and unobvious over the reference Toth et al. An ignition safe supplemental slot as claimed in claim 14 and disposed between one stop face of the side web of the profile clamp and a support face of the casing part is not taught or suggested by Toth et al. nor is the supplemental slot of the present invention in any way obvious, since a person of ordinary skill in the art does not obtain a direction relative to the supplemental slot from the art applied. Here, the profile clamp performs a double function by serving first as a connection between the casing parts and second participates in the formation of an ignition safe supplemental slot.

The new claim 25 corresponds substantially to the language of claim 4, where however a part of the language of claim 4 already is part of claim 24 from which claim 25 depends.

New claim 26 incorporates features of claim 10 and additional features from the specification, paragraph bridging page 10 and 11. The language of claim 26 furnishes more precision in language by specifying that both at least a part of the base web 8 as well as at least one of the side webs of the profile clamp are supported in such a recess, where the recess is formed in a wall part of the casing part.

The reference Toth (USP 3,974, 933) and the present application are both concerned with the subject matter of pressure safe encapsulated housings, also called explosion proof containers or explosion proof enclosures. The international electrotechnical commission gives such structures the name flame proof enclosure "d".

In general these casings and enclosures comprise an upper part (401) and a lower part (402) as shown in figure 4 of the reference Toth et al. The slots between the upper part and the lower part can be flat or planar and in such cases the enclosures are useful for only a few gases, for example methane. Slots applicable universally for all gases and vapors are angled, labyrinth like or are constructed as threads.

These flat slots allow many shapes between the upper part and the lower part and in particular rectangular shapes. A cylindrical connection between the upper part and the lower part (compare thread) results necessarily for production technological reasons in case of more complicated shapes of slots.

The reference Toth et al. (United States Patent 3,974,933) shows the purpose in all figures 1 through 5 and in the claims to close to thread slot such that under consideration of the seal and

the number of the steps of the thread being in the engagement, the position between the upper part and the lower part created by the producer is assumed always with a certain tolerance (compare figure 1 a). This is accomplished according to the Toth et al. reference by having a screw engage a bore hole or an elongated hole (figs. 1,2,3 and 5) or by having a clamp, wherein the clamp however only at one position of the circumference of the round part arrests the upper part and the lower part in a relative defined position. Thus the function can be summarized in that a 1-to-1 arresting of the upper part and of the lower part relative to each other occurs. This clamp 432 has nothing to do with the required pressure stability of the enclosure made of an upper part and of a lower part and the clamp is also not participating in the formation of the required ex-slot, which is the thread slot in the present case.

The upper part and the lower part are connected to buy a thread, wherein the thread forms the ex-slot. In case and explosion

occurs in the interior, then the upper part and the lower part are held together by the thread. The clamp has only one function with respect to the intended orientation of the two parts relative to each other.

The clamp is of course C-shaped according to the reference Toth et al., but the clamp has nothing to do with the ex-slot, which ex-slot is formed by the thread according to the five figs. and according to the claims of the Toth et al. reference. The clamp 432 is a complimentary part, which is not directly relevant to the protection against explosion, and where the complimentary part serves to guarantee a state intended by the producer. The requirements to a flame proof enclosure would be met also without clamp 432.

In contrast the present application has the purpose to realize the complicated slot shape with rectangular enclosures, where the

enclosures comprise an upper part and a lower part. It is a goal of the present application to create a form of slot which is permissible for all gases and vapors. This slot can be a slot having an angled shape, having a labyrinth like shape, or having a saw tooth like shape.

The clamps at the complete circumference of the enclosure have the function to hold the upper part and the lower part together and to form the ex-slot. Four clamps are provided at the straight sides and four clamps are provided at the four corners of the casing.

Of course, the eight clamps are C-shaped, however there are here important components of the casing of the flame proof enclosure. The eight clamps do not form a slot, they enable rectangular shapes of the upper part and of the lower part, and they create the mechanically solid connection between the upper part and the lower part, wherein the mechanically solid connection

connects and holds together solidly the upper part and the lower part in case of an occurring explosion in the casing.

Reconsideration of all outstanding rejections is respectfully requested.

Entry of the present amendment is respectfully requested.
All claims as presently submitted are deemed to be in form for allowance and an early notice of allowance is earnestly solicited.

Respectfully submitted,

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